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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------------|-------------|----------------------|-----------------------------|------------------|
| 10/599,804 | 10/20/2008 | Nathan Kane | JJTP-0039 / TPI5054USPCT | 4853 |
| 45511 | 7590 | 09/16/2010 | EXAMINER | |
| WOODCOCK WASHBURN LLP | | | WEISZ, DAVID G | |
| CIRA CENTRE, 12TH FLOOR | | | | |
| 2929 ARCH STREET | | | ART UNIT | PAPER NUMBER |
| PHILADELPHIA, PA 19104-2891 | | | 1797 | |
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| | | | 09/16/2010 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

eofficemonitor@woodcock.com

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/599,804 | KANE ET AL. | |
| | Examiner | Art Unit | |
| | DAVID WEISZ | 1797 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 29 June 2010.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 27-36 and 38-47 is/are pending in the application.
 4a) Of the above claim(s) 39-43 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 27-36,38 and 44-47 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 10 October 2006 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/17/10</u> . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

1. Acknowledgement is made of amendment filed 6/29/10. Claims 1-26 and 37 are canceled and claims 39-43 are withdrawn. Claims 27-36 and 38-47 are pending; claims 27-36, 38 and 45-47 are presented for examination.

Response to Amendment

2. In response to the amendment and remarks filed 6/29/10 the examiner modifies the grounds for rejections. The 35 U.S.C. 103(a) rejection has been modified, and 35 U.S.C. 112 rejections have been added.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 27-36, 38 and 45-47 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method for analysis of a crystalline solid, does not reasonably provide enablement for the method using a non-crystalline solid. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. See applicants' specification paragraphs [0029]-[0030].

Additionally, there is no indication for success of the method in terms of a non-crystalline solid. Thus, while the inventors provide direction for the use of the method using a crystalline solid, the inventors provide no direction as to how this method can be used to analyze any other solid. Therefore it would require undue experimentation for a routineer in the art to perform the method in the scope of the claims.

5. Claims 27-36, 38 and 45-47 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method for analysis of a solid with x-ray radiation, does not reasonably provide enablement for the method using any other radiation. The specification does not enable any person skilled in the art to which it

pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. See applicants' specification paragraphs [0030], [0043], [0052], and [0055-0056]. Additionally, there is no indication for success of the method in terms of another type of radiation. Thus, while the inventors provide direction for the use of the method using x-ray radiation, the inventors provide no direction as to how this method can be used to with any other radiation. Therefore it would require undue experimentation for a routineer in the art to perform the method in the scope of the claims.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 27-36, 38 and 45-47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, regarding claims 27 and 38, it is recited that a "plug is formed". What relative size is this plug? Does it require a specific shape for analysis? Additionally, regarding claim 27 and 38, it is recited that the plug is exposed to radiation (step c), and then the radiation is later defined to be X-ray radiation (step e). Therefore it is not apparent, which other radiation besides X-ray, can be recited in step c? The language of the claims is unclear and indefinite.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. **Claims 27-30, 32-36, 38 and 44-47** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kane et al. (US 20040146434, previously cited) (Kane) in view of Matsumoto et al. (*Nature*, 2000) (Matsumoto).

Regarding claims 27 and 35, Kane discloses a method of coring a solid material comprising coring a solid material with a coring tool to form a plug (see Example 1, "Coring a Plug of Powder", [0078], and extruding the plug of solid material (see Example

2, "Extruding a Plug of Powder", [0104]). The reference does not specifically disclose that this extruded plug is analyzed using powder x-ray diffraction. However, the reference does disclose that this coring/extrusion method is useful for manipulating solids, such as crystalline solids, without affecting the crystallinity (see "crystallinity" [0004-0005]).

Matsumoto discloses a method of analyzing a solid organic material using small-angle (less than 5 degrees, 2-theta) powder x-ray diffraction to determine crystallinity properties (see Figure 2). As the solid material extrusion process of Kane is related directly towards crystalline solids, one having ordinary skill in the art would use the method of Matsumoto to analyze the solids of Kane, as the method of Matsumoto is drawn towards analyzing crystallinity properties of a solid. While the method of Matsumoto is not specifically drawn towards the analysis of solid "plugs", because the plugs of the instantly claimed invention are not defined dimensionally or otherwise, one having ordinary skill in the art would understand that any solid material could be formed into a "plug" of undefined dimension. Further, analyzing a wide range of angles 2-theta would have been obvious to one having ordinary skill in the art because it would provide for a more complete analysis of the solid.

Regarding claim 28, Kane discloses that the solid material is compressed after said plug is formed (see "compressed" Claim 4, Kane).

Regarding claims 29-30, Kane discloses that the coring tool is loaded onto a rack, wherein the rack has a plate with one or more holes (see Figure 37 and [0157]).

Regarding claim 32, Kane discloses that a pin is used to extrude the plug (see "ejector pin", [0121]).

Regarding claim 33, Kane discloses that a micrometer is used to adjust the plug size (see "micrometer" [0108]).

Regarding claim 34, Kane discloses that the plate is adjustable (see [0157]).

Regarding claim 36, see Item 6 above, where infrared radiation is not enabled by the specification.

Regarding claim 38 and 46, Kane discloses that multiple plugs can be extruded simultaneously (see “multiple plugs”, [0115]). It is obvious to analyze more than one sample in any method in order to obtain accuracy via comparative analyses.

Regarding claim 44, Kane discloses a sample dispersion method involving a two-dimensional array of holes [0157]. One having ordinary skill in the art would adjust the number of holes to provide the minimum amount of necessary spacing in order to increase the number of samples per analysis. Further, it would have been obvious to adjust the number of holes in a number of ways to ensure that the desired number of samples was achieved.

Regarding claim 45, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the method automatic, since it has been held that broadly providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art. *In re Venner*, 120 USPQ 192 (CCPA 1958); *In re Rundell*, 9 USPQ 220 (CCPA 1931).

Regarding claim 47, see Item 6 above, where infrared radiation is not enabled by the specification.

10. **Claim 31** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kane in view Matsumoto, as applied to claims 27-30, 32-36, 38 and 44-47 above, in view of Appleby et al (US 7410606) (Appleby).

Regarding claim 31, Kane-Matsumoto do not specifically disclose the method wherein the top plate of the rack absorbs radiation.

Appleby discloses properties of x-ray detection grids, which are capable of absorbing x-rays to reduce the effects of scattered x-rays (*Col31/L4-12*) (*claim 31*). It would have been obvious to one having ordinary skill in the art to include x-ray absorbing qualities to the properties of the rack in Kane-Matsumoto because it reduces the effects of scattered x-rays.

Response to Arguments

11. Applicant's arguments with respect to claims 27-36, 38 and 45-47 have been considered but are moot in view of the new ground(s) of rejection. The applicants argue that, in the Kane reference, a plug of solid material is not exposed to radiation and that the Blanton reference is drawn to superlattice thin films. These issues are addressed in Items 4-10 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID WEISZ whose telephone number is (571)270-7073. The examiner can normally be reached on Monday - Thursday, 7:30 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571)272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

9/10/2010

/Yelena G. Gakh/
Primary Examiner, Art Unit 1797

/D. W./
Examiner, Art Unit 1797